

What is claimed is:

1. An apparatus comprising:  
a quadrature amplitude modulation (QAM) transmitter;  
a QAM receiver;  
a test controller operable to configure the QAM receiver and the QAM transmitter for an internal test; and  
a test coupler operable to couple an output of the QAM transmitter to an input of the QAM receiver.
2. The apparatus of claim 1 wherein said test controller is further operable to provide a data signal and carrier frequency identification to said QAM transmitter for controlling the QAM transmitter.
3. The apparatus of claim 2 wherein the test controller is further operable to evaluate the response of the QAM receiver to the data signal used to control said QAM transmitter.
4. The apparatus of claim 3 wherein the test controller is further operable to configure the QAM transmitter for a symbol rate during said internal test.
5. The apparatus of claim 1 wherein the test coupler is operable to selectively couple the output of the QAM transmitter to one of a front end component and a

SAW filter of the QAM receiver.

6. The apparatus of claim 4 wherein the symbol rate is within the bandwidth of a surface acoustic wave (SAW) filter coupled to the QAM receiver.
7. A device for internally testing a component of a CATV network comprising:  
a test controller operable to configure a quadrature amplitude modulated (QAM) receiver and a QAM transmitter within a unit under test for an internal test; and  
a test coupler operable to coupling an output of the QAM transmitter to an input of the QAM receiver.
8. The device of claim 7 wherein said test controller is further operable to provide a data signal and carrier frequency identification to said QAM transmitter for controlling the QAM transmitter.
9. The device of claim 8 wherein the test controller is further operable to evaluate the response of the QAM receiver to the data signal used to control said QAM transmitter.
10. The device of claim 9 wherein the test controller is further operable to configure the QAM transmitter for a symbol rate during said internal test.

11. The device of claim 7 wherein the test coupler is further operable to selectively couple the output of the QAM transmitter to one of a front end component and a SAW filter of the QAM receiver.

12. The device of claim 10 wherein the symbol rate is within the bandwidth of a surface acoustic wave (SAW) filter coupled to the QAM receiver.

13. A method for determining phase response of a channel in a CATV system comprising:

configuring a QAM transmitter and a QAM receiver for an internal test of the QAM receiver; and

coupling an output of the QAM transmitter to an input of the QAM receiver.

14. The method of claim 13 wherein the configuration of the QAM transmitter includes providing a data signal and a carrier frequency identification to said QAM transmitter.

15. The method of claim 14, the evaluation further comprising:

comparing a response received from the QAM receiver with the data signal provided to the QAM transmitter.

16. The method of claim 13 wherein the configuration of the QAM transmitter includes identification of a symbol rate for the QAM transmitter.
17. The method of claim 16 wherein the symbol rate is within the bandwidth of a SAW filter coupled to the QAM receiver.
18. The method of claim 13 wherein the coupling includes selectively coupling the output of the transmitter to one of a front end component and a SAW filter of the QAM receiver.